IN THE CLAIMS:

Please amend Claims 15-17, 19-21, and 45-50, as indicated below. The following is a complete listing of claims and replaces all prior versions and listings of claims in the present application:

Claims 1-14 (canceled).

Claim 15 (currently amended): A method of estimating an orientation angle of a local structure of a portion of an image, the portion of the image representing a region of the image having a substantially linear structure, said method comprising the steps of:

~~applying~~ determining, using a complex energy operator, ~~to the portion of the image to provide~~ an energy encoded ~~image portion~~ representation of the portion of the image;

determining a phase component of the energy encoded ~~image portion~~ representation; and

determining an estimation of the orientation angle of the local structure of the portion of the image from the phase component of the energy encoded ~~image portion~~ representation.

Claim 16 (currently amended): A method according to claim 15, wherein the complex energy operator is defined as

$$\psi_r\{f\} = (D\{f\})^2 - fD^2\{f\},$$

and the phase component of the energy encoded [[image]] representation is defined as

$$2\beta_n = \arg(\psi_r\{f\}).$$

Claim 17 (currently amended): A method according to claim 15, wherein the complex energy operator is a modified complex energy operator defined as

$$\psi_M\{f\} = \left(D_M\{f\}\right)^2 - fD_M^2\{f\},$$

and the phase component of the energy encoded [[image]] representation is defined as

$$2\beta_n = \arg(\psi_M\{f\}).$$

Claim 18 (previously presented): A method according to claim 15, wherein the portion of the image is pre-processed to remove background offsets.

Claim 19 (currently amended): An apparatus for estimating an orientation angle of a local structure of a portion of an image, said apparatus comprising:

means for ~~applying~~ determining, using a complex energy operator, ~~to the portion of the image to provide~~ an energy encoded ~~image portion~~ representation of the portion of the image;

means for determining a phase component of the energy encoded ~~image portion~~ representation; and

means for determining an estimation of the orientation angle from the phase component of the energy encoded ~~image portion~~ representation.

Claim 20 (currently amended): An apparatus according to claim 19, wherein the complex energy operator is defined as

$$\psi_r\{f\} = (D\{f\})^2 - fD^2\{f\},$$

and the phase component of the energy encoded [[image]] representation is defined as

$$2\beta_n = \arg(\psi_r\{f\}).$$

Claim 21 (currently amended): An apparatus according to claim 19, wherein the complex energy operator is a modified complex energy operator defined as

$$\psi_r\{f\} = (D_M\{f\})^2 - fD_M{}^2\{f\},$$

and the phase component of the energy encoded [[image]] representation is defined as

$$2\beta_n = \arg(\psi_M\{f\}).$$

Claim 22 (previously presented): An apparatus according to claim 19, further comprising a means for pre-processing the portion of the image to remove background offsets.

Claims 23-44 (canceled).

Claim 45 (currently amended): A method of determining an orientation map representing estimates of orientation angles of an image at each of a plurality of points of the image, said method comprising the steps of:

~~applying~~ determining, using a complex energy operator, ~~to portions of the~~

~~image, that correspond to the plurality of points of the image to provide~~ energy encoded image ~~values~~ value at each of the plurality of points of the image;

determining a phase component for each of the energy encoded image values; and

determining the orientation map from the phase components.

Claim 46 (currently amended): A method according to claim 45, wherein the complex energy operator is defined as

$$\psi_r\{f\} = (D\{f\})^2 - fD^2\{f\},$$

and the phase component of the energy encoded image value is defined as

$$2\beta_u = \arg(\psi_r\{f\}).$$

Claim 47 (currently amended): A method according to claim 45, wherein the complex energy operator is a modified complex energy operator defined as

$$\psi_r\{f\} = (D\{f\})^2 - fD_M{}^2\{f\},$$

and the phase component of the energy encoded image value is defined as

$$2\beta_n = \arg(\psi_M\{f\}).$$

Claim 48 (currently amended): An apparatus for determining an orientation map representing estimates of orientation angles of an image at each of a plurality of points of the image, said apparatus comprising:

means for ~~applying~~ determining, using a complex energy operator, ~~to portions of the image that correspond to the plurality of points of the image to provide~~ energy encoded image values at each of the plurality of points of the image;

means for determining a phase component for each of the energy encoded image values; and

means for determining the orientation map from the phase components.

Claim 49 (currently amended): An apparatus according to claim 48, wherein the complex energy operator is defined as

$$\psi_r\{f\} = (D\{f\})^2 - fD^2\{f\},$$

and the phase component of the energy encoded image value is defined as

$$2\beta_n = \arg(\psi_r\{f\}).$$

Claim 50 (currently amended): An apparatus according to claim 48, wherein the complex energy operator is a modified complex energy operator defined as

$$\psi_r\{f\} = (D_M\{f\})^2 - fD_M{}^2\{f\},$$

and the phase component of the energy encoded image value is defined as

$$2\beta_n = \arg(\psi_M\{f\}).$$